**Applicant: Groundwork New Orleans**
**Geographic Area**: New Orleans, LA

**Project Title for Opp #EPA-OECA-OEJ-15-01**
Environmental Justice Small Grant: **Building Climate Resilient Communities**

**Key Personnel:**

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[redacted]

**Federal funds requested:** $30,000.00 **Non-federal cost share:** $6,000.00
**Total project cost:** $36,000 **Project Duration:** August 2015-August 2016 (Flexible)

**I. Project Title and Project Purpose Statement**

The Groundwork New Orleans (GWNO) **Building Climate Resilient Communities** demonstration project will focus on teaching students to design, build, and install solar powered charging benches on or near bus stops in underserved communities. This will provide clean energy sources for public transportation users, educate community members, and provide a green power source within the community in case of an emergency. The project will coincide with other green initiatives GWNO has implemented along the Green Slice Lower 9th Ward neighborhood corridor and be a welcomed companion to the Lower 9th Ward Earth Lab, a green site previously developed under an EPA Small Grant. The goals of the demonstration project are to: 1. Address climate resiliency issues and community revitalization in two underserved communities; 2. Introduce green technology and innovative design career paths to GWNO's Green Team students by creating a transferable skill; and 3. Provide community members with clean energy to use during daily commutes and during emergency power outages, when individuals may only have a cell phone to use for emergency calls. The demonstration project will increase public engagement capacity and efforts by providing educational signage on the importance of green energy sources while giving most people their first opportunity to utilize a solar powered energy source first hand.

In addition, this project will expand our current Green Team curriculum and program to include climate change resilience as a central topic. The GWNO Green Team creates job opportunities for middle and high school students in New Orleans. In this program, youths engage in the meaningful work of environmental stewardship and green infrastructure development. The program focuses on renewing and inspiring sustainable relationships between the land, water, and people of New Orleans. While planning, implementing, and maintaining practical community-based projects, youth develop workforce-ready skills while cultivating leadership, stewardship, and citizenship capacity. In addition, the job training works as an after-school curriculum, integrating environmental and social sciences and supplementing STEM education. The youth are encouraged to participate in the program throughout their school careers, building on previous skills and mentoring incoming students. Opportunities to attend field trips and leadership conferences enable program youths to shine on college applications and prepare for a variety of careers.

This project, which is related to the Clean Air Act, Section 103(b) (3), uses initial results from EPA-funded research activities along the Green Slice corridor to implement programs directly targeting the environmental, social, and health needs of the Lower Ninth Ward, St. Roch, and Central City neighborhoods. This project would also be implemented along the Lafitte Greenway, a 3 mile walking and biking trail, being developed near the Lafitte Housing Development.

## II. Environmental, Public Health and Community Climate Resiliency Information about the Selected Community

GWNO's efforts reach the New Orleans population of 343,829 (at the time of the 2010 Census). About 24% of New Orleans residents live below poverty level and have a median household income of $35,243. Just below 70% of New Orleans residents are considered minorities, of which 60% are Black and about 3% are Asian. Approximately 5% are of Hispanic or Latino origin. There are slightly more females than males. The median age is 35 and about 29% are 18 years old and under, while 12% are 65 and above. The main beneficiaries of this proposal are Green Team members, youth who represent about 7% of the total population (2010 Census for 15-19 year olds).

GWNO currently has programs in three neighborhoods in New Orleans. These are Central City, St. Roch, and the Lower Ninth Ward. All are underserved neighborhoods, with unique histories of political and educational disenfranchisement. All are undergoing critical redevelopment in the near future, and residents and community advocates will be working to maintain their vibrant cultural character while still reaping the benefits of economic development.

| **Neighborhood Characteristics (from www.city-data.com)** | | |
|---|---|---|
| **Magnolia/ Central City** | **St. Roch and Lafitte Area** | **Lower Ninth Ward** |
| **Area:** 1.416 square miles<br><br>**Population:** 12,837<br><br>**Population density:** 9,068 people per square mile<br>*(compared with 1,998 people per square mile New Orleans average)*<br><br>**Median household income in 2011:** $33,515<br>*(compared with $35,041 New Orleans average)*<br><br>**Median rent in 2011:** $579<br>*(compared with $753 New Orleans average)*<br><br>**Educational Attainment:** 48.1% less than high school<br>*(Compared with 16.3% New Orleans average)*<br><br>**Percentage of population below poverty level:** 44% | **Area:** 1.255 square miles<br><br>**Population:** 6,575<br><br>**Population density:** 5,239 people per square mile<br><br>**Median household income in 2011:** $26,809<br><br>**Median rent in 2011:** $602<br><br>**Educational attainment:** 42.3% less than high school<br><br>**Percentage of population below poverty level:** 45.6% | **Area:** 1.625 square miles<br><br>**Population:** 2,543<br><br>**Population density:** 1,565 people per square mile<br><br>**Median household income in 2011:** $34,574<br><br>**Median rent in 2011:** $582<br><br>**Educational attainment:** 56.9% less than high school<br><br>**Percentage of population below poverty level:** 34.8% |

Southern Louisiana is currently experiencing rapid loss of wetlands and coastal land, at a rate of one football field per hour (USGS 2013). Urban areas are experiencing subsidence at a rate of 5 mm/yr (LSU & NGS 2003). Subsidence has affected about 1900 square miles of land since the 1930s as a result of a long history of engineering practices favoring navigation interests, structural flood protection, and development of outlying neighborhoods in the Greater New Orleans metropolitan area. Combined, subsidence and sea level rise will have noticeable impacts on public health, community stability, cultural vibrancy, and the local economy. Carbon dioxide emissions from power plants, automobiles, and other sources are helping to cause global warming, threatening the Gulf of Mexico habitat. The warming climate is expected to increase the likelihood and severity of hurricanes in the Gulf of Mexico, in both coastal and urban areas. Thus, Southern Louisiana may face increasingly intense weather events as a result of climate change.

During such emergencies, individuals who rely on public transit and cell phones are at a disadvantage. Underserved communities in the U.S. show a high dependence on mobile phone use; among American adults with a household income of less than $30,000, 84% have a cell phone. In urban areas, 88% of adults have a cell phone (Pew Research Center). The New Orleans Regional Transit Authority logs almost 12 million rides per year (NORTA), and Governing reports that a third of New Orleans public transit users live below the poverty line, while only 9% of automotive commuters live in poverty (2014). By targeting both mobile phone and public transportation users, GWNO will engage underserved communities on the merits of using renewable energy during emergencies. By providing a useful, educational service—being able to charge a cell phone at a bus stop—GWNO will contribute to climate change resilience.

Building a resilient community in the face of climate change will require a multifaceted approach. While GWNO has in the past focused on stormwater management, flood mitigation, and water quality best management practices, we have recently acquired local funding from the New Orleans Sewerage and Water Board to develop and test innovative solutions in green infrastructure. The next step for GWNO is to address climate change issues by engaging and educating the public and advancing forward-thinking technologies that will improve the resilience of Southern Louisiana communities.

**III. Organization's Historical Connection to the Community**

GWNO is part of a national network of Groundwork trusts, established across the United States in places that have historically deteriorating physical and social environments. Each trust is supported by the National Park Service, with funding from the Environmental Protection Agency, organized under the umbrella of Groundwork USA. The shared mission of the network is to engage communities to improve their physical environment, to foster and awaken the potential of neighborhoods and in doing so, help these neighborhoods gain a renewed sense of place, opportunity, and pride. GWNO's Green Team, a youth employment and training program, is central to GWNO's mission. Most projects are planned to include youth who are interested in learning a green trade. The program includes a stipend and other life skills training supported by collaborating partners. Green Team members have opportunities to build additional skills and work with peers through Groundwork USA, which holds an annual National Assembly for Green Teams around the country complete with workshops, service activities, and field trips. Thus Green Team students learn presentation, research, and outreach skills, preparing them for

possible careers in politics, public engagement, the arts, and more. Green Team students earn stipends for their work, and have many volunteer opportunities as well.

In 2002, a steering committee was organized through the City of New Orleans Mayor's Office of Environmental Affairs to guide the application process for determining the viability of establishing a Groundwork Trust in New Orleans. Based on the work of the committee, the National Park Service provided $10,000 to develop a feasibility study and strategic plan, completed in November 2005. The initial Board of Directors incorporated Groundwork New Orleans on September 18, 2006. In December 2006, Timberland Boot Company provided funding to GWNO to coordinate a service project. Hundreds of Timberland volunteers installed eight raingardens designed by GWNO. A raingarden is a shallow landscaped depression created by excavating existing soil and replacing some of it with porous material like sand and gravel, and nutrient-rich material like compost. The area is then restored with many kinds of plants that can absorb rainwater and filter sediments and contaminants. These gardens contribute to beautification and improved ecological function of the 11-block Oretha Castle Haley Boulevard cultural corridor. This street, a once vibrant commercial thoroughfare, is now designated as a National Main Street, and is currently enjoying revitalization through the emergence of local business and arts. GWNO is proactively and enthusiastically building working relationships and partnerships with members of non-profit organizations, businesses, faith-based organizations and residents that live and work throughout Central City.

To design the Green Team program, GWNO engaged four youth to help with program development. GWNO hosted educational sessions on environmental systems, then asked the students to share their thoughts and desires related to being a Green Team member in New Orleans. This resulted in the Green Team Strategic Plan. In September 2011, these youth were funded by Groundwork USA to represent their school and community at a national youth leadership conference. There, they performed a service activity in Rocky Mountain National Park, engaged actively in workshop activities, and performed a winning skit in front of other youth at a career seminar.

During the summer of 2012, four new Green Team students completed a successful summer curriculum under the leadership of the former Green Team Program Coordinator, Mark Eric Kugler. In October 2012, two of these youth represented GWNO at the Groundwork USA National Assembly in Yonkers, New York. Mr. Kugler actively developed partnerships with other schools, including the NetCharter School in the Central City neighborhood, initiated training activities for the EPA Urban Waters program. Under the new Executive Director, Alicia Neal, the program expanded to twelve Green Team students. One Green Team student received a $500 scholarship to attend the River Rally, a national conference of water professionals and scientists, where he presented about the Earth Lab. Green Team students also presented at local community meetings. In 2013 GWNO hired a new Green Team Program Coordinator and two interns, and has expanded the Green Team to include 10 student members. GWNO seeks to maintain this level of operation and expand outreach services, K-12 education, and community engagement efforts.

GWNO currently manages a number of sites throughout the city of New Orleans, including eight raingardens on O.C. Haley, a green site called the Earth Lab, which is an outdoor classroom, and the newly constructed Lower 9$^{th}$ Ward Earth Lab, as well as some private sites. Maintenance of these sites include cleaning, weeding, planting, building structures, and installing and reading scientific equipment. Job tasks also include leading volunteer groups, presenting at local meetings and at national conferences, selecting appropriate foliage for a site, designing

presentations and brochures, writing, assisting at public meetings, and more. The Green Team also works at other groups' sites, such as maintaining community gardens, participating in marsh plantings, and going on educational field trips. A typical workday contains an educational lesson relating the work to be done with an environmental or social issue. Green Team students typically work about three days per week, after school and on weekends, and may participate in a summer program. Students that perform well are promoted and mentor incoming Green Team members.

Recently, GWNO conducted a pilot study determining Environmental Justice concerns in the Lower Ninth Ward neighborhood. The study focused on developing a section of neighborhood as a "Green Slice", an educational habitat corridor that would foster a relationship between the residents and their nearby waterway, Bayou Bienvenue. Located in the Lower Ninth Ward of New Orleans--one of the hardest hit areas during Katrina due to the catastrophic breach in the Industrial Canal levee wall--the Green Slice connects the Mississippi River to Bayou Bienvenue, anchored at Global Green's Holy Cross Project and an industrial site at the terminus of Caffin Avenue. After Katrina and Rita, residents of the Lower Ninth Ward have struggled to return to their neighborhood against enormous political and economic impediments. Due to residents' pride in the neighborhood and desire to return, the area is thriving despite persistent blight, drainage problems, and environmental contamination. Recently neighborhood leaders have succeeded in obtaining city support and funding to build a new high school and to reclaim blighted property for parks, education, and recreational areas along Bayou Bienvenue, including the location here identified as the Green Slice. Stakeholders are interested in moving forward with projects that enhance the economic viability of the neighborhood as well as resilience and sustainable livability. Grassroots projects, such as those implemented by Common Ground, CSED, Lowernine.org, and other local organizations, have greatly improved resilience and quality of life in the neighborhood by improving or restoring access to ecological systems and encouraging sustainable, educational, and recreational use. However, GWNO has identified several persistent obstacles still faced by residents of the Lower Ninth Ward. These include lack of access to fresh food, lack of representation in conversations concerning revitalization of New Orleans, danger of contaminants and toxins leaching into soil and water as a result of illegal dumping and littering, lack of investment on the part of businesses, safety hazards found in overgrown and abandoned lots, and lack of population density. At the same time, the local waterway, Bayou Bienvenue, has the potential to become a healthy wetlands area due to recent changes in nearby navigation structure. Initial water quality tests have indicated that the water is relatively healthy, and young marsh grass and cypress tree plantings have begun to take hold. Thus, as development projects move forward, the Lower Ninth Ward has the potential to become a model community where habitat and green space are involved in the urban planning process, while creating usable and fun spaces for residents. Thus GWNO seeks to collaborate with neighborhood residents and stakeholders to improve the resiliency of this and other underserved neighborhoods, while providing some of the green infrastructure, tree plantings, and service-learning education that will improve the health of the New Orleans watershed and climate.

## IV. Project Description

### i. Overview

The goals of the demonstration project are to: 1. Address climate resiliency issues and community revitalization in two underserved communities; 2. Introduce green technology and innovative design career paths to GWNO's Green Team students by creating a transferable skill; and 3. Provide community members with clean energy to use during daily commutes and during emergency power outages, when individuals may only have a cell phone to use for emergency calls. The demonstration project will increase public engagement capacity and efforts by providing educational signage on the importance of green energy sources while giving most people their first opportunity to utilize a solar powered energy source first hand. The design, build, and installation will be incorporated into the Green Team curriculum.

The goal of the project is to provide training and education to youth on important green energy uses and strategies. The students will be able to learn a transferable skill while providing community beautification as well as a useful tool during any future emergencies from storm events.

Through previous and current funding GWNO has focused on community revitalization efforts including community clean ups, tree and flower plantings, and environmental education workshops. A number of research and experimental projects have been conducted in the Lower Ninth Ward neighborhood by academic institutions, activists, NGOs, and more. Stakeholders and residents, however, are quick to point out that nine years after the storm, too few results have materialized. While there have been a number of positive residential constructions, the neighborhood still does not have access to a grocery store, a hospital, or enough schools. There is a lack of positive economic and community development, and there are still many abandoned lots and toxic waste as a result of illegal dumping.

Many of the same issues are faced by other underrepresented neighborhoods in New Orleans. GWNO currently has green infrastructure and related educational programming in three neighborhoods: Central City, St. Roch, and the Lower Ninth Ward. With this project we will begin work in the Fabourge Lafitte Community as well. The Lafitte Community is home to the Lafitte Housing Development which is next to the Lafitte Corridor. The community was badly damaged during Hurricane Katrina, and as a result, the housing development has been completely rebuilt to include a more economically diverse population. The area is serviced by multiple bus lines, is located close to the historic Tremé neighborhood, and is the home to the Lafitte Greenway project. All are culturally distinct, vibrant, historic communities. All need amenities that will improve environmental conditions and elevate climate change issues such as flooding and global warming, while also adding aesthetic and revitalization services that will improve quality of life and access to new green technologies.

GWNO has written grant proposals, including to the EPA Urban Waters Program, to address some of these issues specific to the Lower Ninth Ward, including 1) water quality testing, 2) developing a drain dumping education campaign called "Don't Dump Dat", and 3) developing a coalition of neighborhood organizations. Through the EPA EJ Collaborative Problem solving grant we will be doing community revitalization, youth education and stormwater management workshops.

**ii. Activities**

Activities will include:

- Collaborating with Tulane City Center for design build assistance and training for the Green Team students. Students will receive hands on instruction from some of the top professionals in their field.
- Working with the Lafitte Greenway to install and monitor benches in the community.
- Addressing local concerns on climate change, global warming and community revitalization
- Improving community conditions through the installation of modern environmentally friendly benches that will improve quality of life and have a positive impact on the urban environment
- Educating community members on green energy and climate change through hands-on experiential learning
- Transforming our initial community outreach endeavors into an innovative product that benefits the community members directly and can be adapted to any community and audience

**iii. Job skills training for Green Team Students**

While some local schools are developing innovative educational models of their own, Louisiana still ranks extremely low in student achievement compared with national standards, both in literacy and in STEM subjects (Sentell 2013). Local schools still struggle to meet testing requirements and, in many cases, teach non-integrated subjects in isolated classroom situations. Students face a range of challenges including poverty and lack of access to extracurricular activities. This program will offer an opportunity for local high school students to build their knowledge and experience in STEM subjects through participation in GWNO's Green Team program. In keeping with recent advancements in educational theory and policy (NSF 2014), GWNO provides hands-on, interactive learning that enables youths to graduate with competitive training in integrated science, technology, engineering, and mathematics. The GWNO Green Team also contributes directly to workforce development in STEM fields by training students in presentation, logging of hours, resume-building, and other basic job skills.

Green Team students will work with Tulane City Center design build teams to assist in creating the benches. The students will build 3 benches for the demonstration project. It is estimated that each bench will cost roughly $3,000 to build. If we can source materials for a cheaper rate, we will build more benches. The students will learn to design benches, choose materials, and learn how green energy works and how to install the benches. A solar powered weather station will be included in each bench, thus allowing us to gather data on rainfall, temperature, and wind. The benches will be placed in the Lower Ninth Ward, near the bus stop at our Lower 9th Ward Earth Lab; along the Lafitte Greenway; close to a busy community bus stop area and at a location in Central City (possibly on Oretha Castle Haley Blvd); and in the St. Roch area near the Eart Lab.

**iv. Community Education and Engagement on Green Energy**

Our Green Team will utilize the public engagement techniques they have learned to educate members of the public about the many benefits of green energy, including future jobs and development of ethical industry in Louisiana. The students will present the lessons they have

learned at community workshops to other youth and community members. They will visit after-school programs and summer camps to teach younger students about green energy and present demonstrations using green models. The Environmental Program Coordinator will also design and promote green energy community engagement events for community members, which will feature information on energy efficiency steps individuals can implement at home. By encouraging community members to use less energy in their homes and choosing renewable energy sources, we aim to reduce greenhouse gas emissions and improve air quality. The educational signage placed at the benches will not only help educate the bench users but anyone accessing the bench. Users will read about green energy, understand how the solar charging benches work, and get tips on how to make their homes more energy efficient.

Involving Green Team students will have a long-term impact by enabling youths to gain a deeper understanding of green energy and climate change. Green energy sources create energy while minimizing both waste and pollution; therefore, reducing the impact of energy production on the environment. Solar energy does not produce emissions and is renewable. As solar panel usage on homes increase around the city of New Orleans, students should have a working knowledge of this technology. In order for students to gain a holistic approach to environmental improvement this project will offer not only lessons on green energy but on climate change as well. As stated by the President's council on Science and Technology, "STEM education will determine whether the U.S. will be able to solve immense challenges in such areas as energy, health, environmental protection and national security."

**v. Installation and Monitoring of Bench Usage and Data Collection**

The benches will be designed to accumulate certain data on usage, weather and rainfall so that the information can be documented over the year. We would also like to collect user friendly data, such as how much power is being generated and how that translates into CO2offsets and electricity equivalents. This information will be documented and shared with the community. The data will also be used to demonstrate the importance of green energy to the City of New Orleans and the Regional Transit Authority, in order to encourage the City to reduce its carbon footprint overall. Through this demonstration project we can hopefully inspire the next generation of clean energy leaders and place underserved neighborhoods at the forefront of innovation. By making the data collected accessible to teachers, students, parents, and community stakeholders, we can broaden the scope of the project and its use as a learning tool.

**vi. Project Activities and Performance Measures/Milestone Schedule**

GWNO proposes to focus on three main project activities, based on community needs identified in previous and ongoing research.

| Project Activities and Performance Measures | | |
|---|---|---|
| **Project Activities** | **Output** | **Outcome** |
| **Job skills training for Green Team Students:** Training Green Team students in solar powered design and building. Students will learn job skills related to climate change and green energy. | • Lessons on climate change incorporated in Green Team curriculum<br>• Lessons will supplement STEM education<br>• Green Team will share what they have learned in workshop presentations<br>• Green Team will visit other educational programs to educate other youths | • Students will be better prepared in STEM subjects, and therefore more competitive on college applications and in the job market<br>• The Green Team program will have more impact on education in Louisiana by incorporating more topics in STEM education |
| **Community Education and Engagement on Green Energy:** Educational signage will explain green energy and climate change to users. We will also conduct hands-on solar powered activities within the target communities for neighborhood youth and residents. | • GWNO will use attendance and workshop feedback to measure immediate educational impact on adults in the community<br>• Hands-on education will make climate change fun and interesting for the average user<br>• A usable, functional service will improve neighborhoods | • Underserved neighborhoods may become model communities for technological innovation, aesthetic design, and green user-friendly services<br>• Through long-term education and exposure to green technologies, the project will have a measurable impact on CO2 emissions |
| **Installation and Monitoring of Bench Usage and Data Collection:** The benches will be designed to accumulate certain data on usage, weather and rain fall so that the information can be documented over the year. | • Data will be documented and shared with the public<br>• Information on climate change will be immediately locally relevant<br>• Green Team students will learn the value of consistent data gathering, research, and information sharing | • Data will generate a better understanding of how climate change affects urban areas<br>• Data may be used to affect policy |

| Milestone Schedule | |
|---|---|
| **Phase 1: Study, Design and Build<br>Aug 2015-Dec 2015** | **Phase 2: Installation and Monitoring, Community Engagement Events<br>Jan 2016-August 2016** |
| • Work with partners to design solar charging stations<br>• Design lessons on design, build, and installation for Green Team<br>• Work with partners to choose locations<br>• 4 meetings (1 in each target neigborhood) to solicit community input on design<br>• Generate final draft of design with Green Team involvement and community feedback incorporated | • Install solar charging stations with assistance from partners and volunteers<br>• 4 demonstrations at existing community meetings or events<br>• Begin data monitoring, publish and share results |

**vii. Expected Results**

GWNO expects to train Green Team students in valuable skills that they can implement to improve their community. They will also receive mentoring, career guidance from professionals in the field, and learn to work in the green energy sector. The students will be able to understand how solar power works, how to design a solar power bench, and the building process including obtaining supplies needed and installation procedures. Students will also gain a working knowledge of STEM activities through this demonstration project. Three underserved communities will learn about climate change, green energy, and how solar energy can be used to enhance their day to day activities while helping to alleviate global warming. By placing educational signage at the benches we hope to reach a greater number of residents, especially those that do not attend workshops due to transportation issues. As a result of gaining first-hand experience with and knowledge of green energy, we are hoping to see more commuters choose to reduce their carbon footprint but choosing cleaner energy sources.

**viii. Collaborations**

For this project, GWNO is partnering with Tulane University City Center to provide design, consultation, and installation of the solar power charging stations. For the demonstration placed at the Lafitte Corridor, GWNO will partner with Friends of Lafitte Corridor, who is working with the city of New Orleans to design, fund, and implement the Lafitte Corridor project. Finally, GWNO is working to build a relationship with the Dillard University STEM program, to facilitate college visits and career guidance for Green Team members. Each partnership will play a pivotal and unique role in delivery of services to the community.

Long term and past partnerships include agreements with Common Ground Relief (CGR), Parkway Partners, and the New Orleans Healing Center. CGR has worked in the Lower Ninth Ward neighborhood since 2006, helping residents to rebuild after Katrina by providing construction, environmental oversight, legal help, and a medical clinic. CGR is also located in the Lower Ninth Ward, and therefore, has strong ties to the community, residents, and the area school. The organization continues to provide resources, regularly bringing in volunteers from

around the country to work on construction and marsh planting projects. By working with GWNO, they are able to extend their activities into the education sector, reaching high school-aged students and teachers and providing more resources, such as wetlands nursery plants, to the neighborhood. GWNO plans to maintain this and other local partnerships in order to foster the resilience of the Lower Ninth Ward, creating a united front that is able to advocate for the neighborhood's environmental, health, and safety needs. Parkway Partners has a history of dedication to the community and environmental improvement. Parkway Partners is conducting a ReLeaf New Orleans program which involves planting trees in underserved communities. They also have several community gardens around the city and at various schools to teach health and nutrition to youth. They will partner with us directly on the Tree Planting and Community Engagement component of the curriculum. The New Orleans Healing Center provides many services to the St. Roch neighborhood, including healthy food choices, meeting spaces, a community center, and a space for a diverse array of local businesses that promote community engagement and improvement. The Healing Center has supported GWNO's development of the Earth Lab site, which was previously an empty, overgrown lot. This site is one of the service learning sites where design and build operations will take place.

GWNO has ongoing partnerships with two area schools. The Dr. King and NetCharter schools—located in the Lower Ninth Ward and Central City, respectively—which currently supplement their own science programs through involvement with GWNO. The high-school aged students who are employed by the Green Team work after school and gain environmental knowledge while getting paid for their labor. This educational model allows them to become mentors among their peers and prepares them for a wide variety of careers by teaching them life and work skills. GWNO's relationships with schools are central and necessary to all programs.

GWNO's business partners include Waggonner and Ball Architects, which provides consulting on green infrastructure projects and has spearheaded the New Orleans Water Plan and related initiatives; and GAEA Consultants, an engineering firm which provides office and accounting services and consultation. GWNO will be developing a portion of the Environmental Education curriculum with funds from the Sewerage and Water Board (NOSWB), and has housed the Lower9 Earth Lab on land provided by the city agency New Orleans Redevelopment Authority (NORA).

**V. Organizational Capacity and Programmatic Capability**

**i. Organizational Experience**

GWNO is part of a national network of Groundwork trusts, which are established across the United States in places that have historically deteriorating physical and social environments. Each trust is supported by the National Park Service (NPS), with funding from the Environmental Protection Agency (EPA), and is organized under the umbrella of Groundwork USA. The shared mission of this interdisciplinary, interagency network is to engage communities in improvement of, and access to, their physical environment; to foster and awaken the potential of neighborhoods and in doing so, help these neighborhoods gain a renewed sense of place, opportunity, and pride. In New Orleans and Southern Louisiana, this work relates to ongoing initiatives among local grassroots organizations, city planners, architects, and others to address and improve the region's relationship with water by improving water quality, education, and access.

GWNO's interdisciplinary, expert board and technical advisory committee are the top advisors in the region on ecosystem preservation, restoration, environmental policy,

communication and sustainability, urban planning and design especially focused on drainage and naturalizing infrastructure. This aspect sets the organization apart from its partners; however, all collaborations complement each organization's mission and purpose.

In recent years, GWNO has greatly expanded operations and capacity. While maintaining a number of ongoing projects, GWNO has been able to initiate the "Green Slice" research and education project in the Lower Ninth Ward, thanks to two generous EPA grants: the Urban Waters Small Grant and the Environmental Justice Grant. Since 2011, GWNO has grown from two part-time staff to one full-time Executive Director, two part-time senior staff, a part-time intern, and a Green Team leader. GWNO has also expanded the Green Team program from four to ten students, including an additional school. GWNO has also expanded its network of partner organizations, and increased community involvement and its volunteer base as well.

**ii. Staff Expertise/Qualifications**

GWNO's interdisciplinary, expert board and technical advisory committee are top advisors in the region on ecosystem preservation, restoration, environmental policy, communication and sustainability, urban planning and design especially focused on drainage and naturalizing infrastructure. GWNO employs a full-time Executive Director, Alicia Neal (MFA, Photography), and two part-time staff. Part-time staff include the Environmental Program Coordinator, Maria Brodine (M.Phil., Anthropology); and the Green Team Coordinator. DOI/ VISTA Lily Bartlett is also working with GWNO.

The Board Treasurer, Jenny Snape, handles drawdowns from the ASAP system. In consultation with the Executive Director, she uses Quickbooks to manage the day to day financial record keeping. GWNO also has a CPA, utilized by Groundwork USA, who handles the yearly reporting and tax filing.

GWNO has managed two different EPA agreements by filing periodic reports and undergoing periodic evaluations to revise and adjust tasks as needed. GWNO will implement these same organizational strategies in order to successfully manage the EJ Small Grant. More specifically, GWNO will evaluate the progress of the program in accordance with its goals, and compile a report, on a quarterly basis. Prior to filing the report, lessons learned will be shared in quarterly evaluation meetings with partners. Goals and strategies will be revisited at the meetings and any adjustments noted in the report. More details about GWNO's compliance with reporting requirements on past EPA grants can be found below.

GWNO and partners have the resources in place to manage and complete the proposed project. We have historical standing in each neighborhood as well as the interest and support of crucial stakeholders, including area schools. With a diverse array of professions and background represented among the staff and Board members, we are uniquely adapted to community engagement work.

**iii. Qualifications of the Project Manager (PM)**

The Executive Director has extensive experience in project management, curriculum development and community engagement. She has worked in the nonprofit sector for over 18 years. Her past and present experience includes grant management, program reporting and financial oversight. She has worked within the New Orleans community for over 15 years doing community engagement, engagement and program development for youth of all ages. She has designed and implemented a youth entrepreneurship program for teens which taught life and job skills to youth ages 14 to 18, implemented a pregnancy prevention program for teens called Baby

Think it Over, organized field trips and worked closely with a Kids Café program for youth and families. She also developed and implemented an environmental education program for youth at a summer program teaching them about composting, gardening, water testing and energy efficiency. Youth also conducted hands-on science experiments. She oversaw the previous EJ Water Catchment grant and assisted with implementation of the EPA Urban Waters.

**VI. Past Performance in Reporting on Outputs and Outcomes**

In the past three years, GWNO has completed the following cooperative agreements:

- The Green Slice: Restoring an Urban Neighborhood Watershed through Research and Education. EPA Urban Waters Small Grant. $59, 824 (2 years). EPA-OW-IO-12-01. Point of contact: Virginia Vietti, Project Officer
- The Green Slice Water Catchment Project: Restoring an Urban Neighborhood Watershed. EPA Environmental Justice Small Grant. $30,000 (1 year). EPA-OECA-OEJ-13-01. Point of contact: Israel Anderson, Project Officer
- National Park Service, Task Agreement Number P12AC12876 / Cooperative Agreement Number P12PA30189 - Ongoing, varies by request
  Project Title: Cooperative Agreement between The U.S. Department of the Interior National Park Service and Groundwork New Orleans
  Point of Contact: Douglas Evans

GWNO has completed deliverables and reporting requirements for two EPA grants: UWGS CE-00F500-01-0 (2012-2014), and EPA-OECA-OEJ-13-01 (2013-2014). The GWNO Board Treasurer and full-time Executive Director currently administer projects funded by the EPA Urban Waters Small Grant (UWSG) Program (Grant # UW-00F85601) and the EPA Environmental Justice Collaborative Problem Solving grant (EJCPS) (Grant # EC-00F94201). The Treasurer is responsible for draw-down of ASAP funds and immediate tracking of expenditures using Quickbooks. The part-time Program Coordinators administer the Green Team and Environmental programs and all staff attend to reporting requirements with supervision by the Board of Directors. Thus far, GWNO staff have fulfilled all of the training requirements of previous grants, including attendance at the Urban Waters and Environmental Justice workshops and EPA Quality Assurance training. GWNO has updated the QMP with the EPA, revised the current QAPP, and added a Secondary QAPP accounting for EJCPS activities. Quality assurance and reporting requirements have been fulfilled in consultation with EPA Project Officers Virginia Vietti, Israel Anderson, and Tressa Tillman. Additional funds will be incorporated in GWNO's master budget and administered in the same manner as other federal grants thus far received. GWNO will use the quality assurance tools developed during training, and administer any new research activities under the QAPP and Secondary QAPP currently in place. In addition, GWNO will develop any additional governing documents in accordance with EPA policy, and under direction of the EPA Project Officer, as necessary.

GWNO has completed six Task Agreements funded by the National Park Service since 2006. Tasks included building and maintaining eight curbside raingardens in the Central City neighborhood of New Orleans. These have been adopted and have been a showcase of best management practices. GWNO was able to complete and manage all deliverables in all task agreements to date. All deliverables for NPS Agreements have required written documentation of the accomplishment of each deliverable to the specifications of the task agreement including metrics, photos, production of materials, and quarterly and annual reporting. The NPS requires

quarterly reporting on deliverables, or "tasks" listed in the cooperative agreement, and benchmarks met. The cooperative agreement is meant to assist GWNO in developing organizational capacity while fulfilling the mission of NPS to restore watersheds and derelict land to recreational and educational use. To fulfill the requirements of this agreement, GWNO must document and report activities including networking with local entities and neighborhoods, all work to restore the Mississippi River and Lake Pontchartrain Basin watershed, and Green Team educational and job training activities.

**VII. Expenditure of Awarded Grant Funds**

Expenditures on specific tasks and materials are managed by the Executive Director. All expenditures are performed after consultation with, and approval of the Executive Director. All purchases over $500 must be approved by the Board of Directors. The Treasurer and Executive Director work together to manage budgets under various grants and apportion expenditures appropriately.

**VIII. Quality Assurance Project Plan (QAPP) Information**

GWNO anticipates that this project will require the use of existing environmental data gathered during previous EPA-funded projects. GWNO will adapt and extend the existing QAPP and Secondary QAPP in place for current projects to document methods and procedures for data collection and review. The QAPP will be prepared prior to any other activities and must be approved by the EPA QA officer prior to any sampling/analytical activities.